

## **Environmental Advantages as a Factor in Prioritization of Water Transportation Projects**

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Thank you, Bob. I want to thank the U.S. Section of PIANC for inviting me to speak. Before I get started, I want to relate to you a story that I hope will convey a message that I hear as a recurring theme. And the message is illustrated by my wife's herb garden.

Last year we bought a farm, and my wife is intent in jumping right in and starting to farm her herbs. And so she's really digging this cooking thing, and she plants several dozen herbs. And I told her, "Sweetie, be careful". I said, "We have lots and lots of deer out here in the country, and they're going to come back in the fall, and they'll just graze these things down."

And she said, "No, no, no, these sweet little deer are not going to eat my herbs." She said, "I planted herbs that repulse deer; things like sweet woodruff and other types of herbs that deer just don't eat."

And I said, "Honey, I'm telling you when deer get hungry in the fall, they eat anything green." And so she says, "No, I won't worry about it." And so all summer she plants herbs all over the rocks and the formations and things that we have in the yard.

And low and behold, sure enough, in October the deer come back, and they just mow her herbs right down to the nub. You can't even recognize them; it's bare ground down there.

And so my wife comes to me and she says, "I just can't believe this." She goes into the barn, and comes back out with my rifle and she says, "How do you shoot this thing? I'm going after Bambi."

And so it illustrates that it's our problem, and we're not doing a good job of communicating to the public that it's also their problem. It's a failure that we have. I think it's a failure in the United States and perhaps other countries, too.

We're doing a better job. We're experimenting with some things. The Corps of Engineers is going to launch, in fact, a new web site on educational outreach. I think that's going to be a good thing. It's targeted towards kindergarten through twelfth grade.

We hopefully will have it on the Corps's main web site, and you'll see it. It's really good. It's interactive, but it's a step, and we've got to keep working at it. We're not doing as good a job as we can in educating the public that our problem is also their problem.

So, let me get right into my presentation. I wanted to do three things. I wanted to take you through history because I think it's important to understand how we got to where we are in the United States with regard to environmental legislation.

I want to give you a non-economist's view. I mean I'm not an economist, but the reality is environmental legislation changes the complexity of navigation projects. It changes the outcome that the engineers perceive and the planners perceive in these navigation projects.

And finally, I want to look at some issues that are emerging now and look into the future to get some sense about where we may be going in the United States and perhaps the world.

First of all, it's good news and bad news. The bad news, perhaps, is that I've had to say on the one hand that environmental legislation in the United States has definitely put the navigation transportation system at an economic disadvantage.

There's no doubt in my mind that when you look at historically how we viewed navigation and its importance to the U.S. economy in the early part of the last century and even in the 1800's versus the last thirty or so years in the United States, you'll see a dramatic shift.

But on the other hand I would underscore the fact that in the United States environmental legislation has had a very profound effect on how we have shaped environmental issues. It's had a profound affect on our environment in general, and specifically projects around the country. Not just navigation projects, but projects in general.

First of all, environmental legislation is not new in the United States. It goes all the way back to the Antiquities Act of 1906, which is the first one I can come up with. And then there are acts like the Fish and Wildlife Act.

And again, I won't bore you with these. I teach environmental law for graduate law students at George Washington University. And we also have a Corps training course, and I teach that as well. And it's gotten to the point that the students complain that I get ad nauseam in all these laws because there's dozens and dozens and dozens of

them. And you can pick any law and find a way in some respects to either slow down or stop the project.

But I do want to emphasize that it's been an evolution. And the evolution had a big kickstart back in the '70s. And then there's a state issue that I want to talk about just briefly.

So, why did the environment matter and why did it change? When you look back at the '60s, you'll see some serious hurricanes that occurred in the late '50s and early '60s. And I think the catalyst which really made the big difference, that catapulted Congress into doing something, was the Cuyahoga River in Ohio catching on fire. I mean we're talking about serious pollution here.

And when you look at that river today, it's a marked example of how we have improved the environment. That river now is fishable, drinkable, and swimmable, as mandated under the Clean Water Act.

So, what are the advantages? Well, we began to realize in the '70s that environmental benefits don't just benefit the environment; they also benefit humans. And I think it's an important feature that we need to keep in mind that when we were in the '70s we were thinking more like we had the engineers on the one side and the environmentalists on the other. And we said, well, engineers create things for the economy. We get jobs, we get all these other things.

And then the environmentalists were sort of defending themselves. And so the idea was well, wait a minute. You know there are fishermen out there. There are people that use the waterways and water resources for recreation, and there were hunters, and the ducks, and other things. So all that had an impact as well.

Well, as we started developing projects in the mid to late '70s, the environmental issues became actual tests for whether projects proceeded or not. You couldn't build a project, for example, that had irreparable harm. And any and every project that had a significant impact on the quality of the human environment went through a very vigorous process to ensure that project considered the environment in the decision making before the ultimate construction of the project.

Well, did economics fairly factor in environmental costs? I think they did. I think we were trying to come up with some balancing act at the time. We were in the '70s discovering what is the environment worth. If you look at some of these CEQ reports back in the '70s, and I'm one of the few people that probably keep and read those, there were several issues that Congress was looking at.

They were looking at things like trying to assign some sort of value, economic

value to things that hadn't before had economic value assigned to them, like wetlands. We knew they were important, but how important were they?

And so we started looking at assigning value. The courts were looking at other things. They were looking at things like 'taking' issues. We have the Federal government now regulating activities and waters in the United States.

And, in fact, we were 'taking' private property. And so the courts were looking at that; the CEQ was looking at that. So, there were some emerging issues there that sort of shaped how we began to think in the '80s.

And then, of course, the '80s came in. And we all remember the Reaganomics theories, and that's sort of an issue that comes along with O and D and other economic factors that were playing up into the '80s. And the idea was, let's assign a value to everything. Everything had a price. Everything had some sort of economic value assigned to it. Whether it was an accurate one or not with regards to the environment, it really didn't matter. I think it was a consensus approach that we adopted.

And, of course, the first water resources legislation in about fifteen years, the Water Resources Development Act in '86 had cost sharing, and then we were putting into that first piece of legislation, water resources legislation some environmental legislation as well. And we're adding environmental features to the projects.

We had local harbor deepening, for example. And the agreement was that the environmental groups would not support local harbor deepening unless we hauled all the maintenance material to the ocean. So, it was one of those environmental deals that came about at the time.

Again, in the '80s, equal status for the environment, and it carried through. Were the environmental features exceeding costs? I think yes, in some cases they were.

And, of course, then as I pointed out earlier in my presentation, the states were starting to feel their oats under the Coastal Zone Management Act and the Clean Water Act. And in those two pieces of legislation, Congress gave the states a partial waiver of Federal supremacy.

And, of course, in the United States we have a constitution, which protects the Federal government's right to do things in navigable waters. Ultimately, mitigation for fish and wildlife became the by words in trying to accomplish projects in the '80s.

Well, ultimately the idea was, let's put it in WRDA. Let's don't try to deal and negotiate with these issues beyond anything that we have to as far as when these projects are being developed. And so the idea was just, let's put it in the Water Resources Development Act, and that carried through in the early '90s. And in the early '90s, we began to get better at assigning economic value to environmental features.

And I think it came about because the economists, the engineers, and the biologists, and everyone that had a say started getting together with the realization that we have to start coming up with some sort of sense about how to best assign value. And then we agreed to things like the habitat evaluation procedures and other types of analysis.

Poplar Island is an example of a project that was great for the environment, but the economic costs were tremendous. I think that in the Poplar Island case, the wetlands were about \$50,000.00 per acre. Typically, in other places around the country we build wetlands for about 10 to \$12,000.00. So, it was a great project for the environment, wonderful engineering feat, but very expensive.

In the '90s again we carried through with trade-off analysis. Somebody loses, almost always somebody loses. And we came to the realization that not every project is supported by everybody. And so the by word became, let's negotiate. Let's figure out some way to get there from here.

Again, we're getting the engineers, the biologists, the economists. Everybody is coming together better in the '90s than they were in the early part of the '70s and certainly before the '60s.

I want to speak just a little bit about sustainable development. I think that one of the things that we keep talking about now is we want to do sustainable development and ecosystem management. I think one of the issues that I relate to in both of those terms is that, particularly with regard to ecosystem management, we're really about ecosystem planning right now. I don't think we're ready for ecosystem management.

Ecosystem management is that next generation of getting everybody together. With regards to sustainable development, I think it's a lot like ecosystem management, which is that we look at doing it on a long-term basis.

The problem with sustainable development and ecosystem management is that I'm not sure we're looking at the long-term costs of the ecological aspects of either sustainable development or ecosystem management.

We're good at looking at the engineering stuff on a long-term basis and quantifying the economics associated with benefits. And you start looking at the benefits of ecosystem improvement, are we looking at that on a long-term basis. Are we willing to make that commitment to spend resources on a long-term basis?

Okay. I'm going to spend just a minute on the next frontier as I see it. The Endangered Species Act, it's old law, new species. More and more species are being listed. Almost daily I see a new species being listed as endangered.

Some fundamental questions that we have to answer. We're asking them now, and we're going to have to ultimately answer them. We're not answering them yet. Is

this really a natural part of evolution? Does every species deserve total protection from extinction no matter the cost? The law says yes.

I'm not sure that the law in this day and time is accurate. The law is almost 25 years old now. I think we need to re-visit the Endangered Species Act and make some fundamental decisions about how we want to approach it in this century.

We have exotic species. International trade has brought all kinds of trade into the United States. We brought in zebra mussel. We brought in Chinese biden crab. We brought in all kinds of aquatic plants. It's the kind of trade we'd like to send back, but unfortunately we're having to live with it in the United States. It's creating a drain on our economy in some respects.

We're spending a couple billion dollars a year now, just dealing with exotic species. It's something that I foresee as a long-term issue that the United States is going to have to deal with, certainly the Corps of Engineers as well.

The Clean Air Act. I want to just briefly mention that. I added it in last night. That's why the slide is a little -- it's been modulated because I heard several speakers talk about it yesterday. There were some amendments about ten years ago to the Clean Air Act and EPA issued that regulation in '93. They're just now implementing those regulations. It's based on non-attainment areas. We know of several.

There's L. A., that's been dealing with Clean Air Act issues for a number of years. Houston is on the cooker now. You heard Tom Wakeman talk about New York yesterday. There are going to be some other regional locations put on the Clean Air Act non-attainment areas list.

To give you a typical example, a dredge, typical dredge, in about three days will exceed its air emissions in a non-attainment area. And so we're seriously going to be looking at electric dredges in some places around the country. It's going to change the entire complexion of the dredging industry.

And the dredging industry has not put this on their radar scope yet, it's a big issue. I really think they need to take a hard look at it. I'm dealing with it in headquarters for a couple of the ports now.

I think for the next 100 years, since it is the U.S. Section 100th Anniversary I'm obliged to at least give you my insights. Perhaps I'll be here, you probably won't be. But I've warned everyone that I'm going to die at my desk at work; that I'm not going anywhere for a long time. They'll probably just pickle me there or stuff me and just sit

me there and y'all come and see the old guy, he's still here.

But anyway we're going to have to hone in on this ecosystem management thing. It's an important issue. I think all of us already had several people, presenters that talked about it in previous conversations and discussions. We're going to have to deal with it. Right now we're going for good ecosystem planning, but then there's the implementation part. That's what's going to grab everybody by the ankles. We're going to have to go out and reach out to point and nonpoint source polluters; a very complex set of issues.

We're going to have states rights involved in it; going to have 'taking' issues involved in ecosystem management, a very important issue. And we're going to have more cost sharing. I think in the United States that if you want it, you're going to have to pay for it. I think the Federal government is going to be less inclined in the future to give those that benefit a free ride.

And we're going to have this renewable resources issue. I think when we look at it, we look at what's going on in the middle east right now. But when you start putting, a Cadillac in the hands of two billion Chinese, there's not going to be enough oil, we can't suck it out of the ground fast enough.

And we're going to have to figure out how in the United States we're going to deal with nonrenewable resources. And we're going to have to use research better. So, an important issue right now for me is that our researchers are doing incredibly good jobs at refining and fine-tuning the research.

We can look at things at part per quadrillion. And I want to see what one of those looks like, but I'm here to tell you that's tiny. But they assured me that they're accurate at it. I've talked with Dr. Bridges many times, and he's assured me that they know what part per quadrillion of an impact is. And I'm not disagreeing with them, I just hadn't seen it

yet.

But nevertheless the fact is we have all this information, but I don't think we're doing a very good job of integrating it into decision making. How do we do that?

Finally the last slide. Will balance prevail? I think that's the challenge for us, to look for a balance, how to strike some sort of balance between economics, environment, our engineering talents; bring all of it to bear.

And I had to throw in a little controversy here. Do we need deep draft harbors? Maybe we need more. I don't know. Are they in the right place? But I'm here to tell you environmental issues are going to drive the number, and I think to some degree the location of deep draft harbors in this country in the future. Anyway that concludes my presentation.



